

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Robert CHASSAGNON et al.

Serial No.: 10/578,119

Filed: May 1, 2006

For: Tread for Pneumatic Tires

Examiner: Scott, Angela C.

Group Art: 1796

Confirmation No.: 5029

Mail Stop **Appeal Brief - Patents**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

APPEAL BRIEF

SIR:

This is an appeal, pursuant to 37 C.F.R. § 41.37 from the decision of the Examiner in the above-identified application, as set forth in the Final Office Action dated March 16, 2010 wherein the Examiner finally rejected appellant's claims. The rejected claims are reproduced in the Appendix A attached hereto. An Amendment was filed on August 11, 2010 in response to the Final Office Action. A Notice of Non-Compliant Amendment was issued on August 24, 2010 (due to missing claim 19 from the listing of claims in the August 11, 2010 Amendment after Final). A response to the Notice of Non-Compliant Amendment was filed on September 1, 2010. An Advisory Action was issued on September 20, 2010. A Notice of Appeal and a Pre-Appeal Brief Request for Review were filed on September 16, 2010. A Notice of Panel Decision from Pre-Appeal Brief Review was issued on January 26, 2011.

Appellant requests a one-month extension of time such that the due date for this Appeal Brief is March 26, 2011.

Please charge the government fee of \$540 for filing this Appeal Brief and the government fee of \$130 for the one-month extension of time to our Patent and Trademark Office Deposit Account No. 03-2412.

Any additional fees or charges in connection with this application may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

REAL PARTY IN INTEREST

The assignee, MICHELIN RECHERCHE ET TECHNIQUE, S.A., of applicants, Robert Chassagnon and Didier Vasseur, is the real party of interest in the above-identified U.S. Patent Application.

RELATED APPEALS AND INTERFERENCES

There are no other appeals and/or interferences related to the above-identified application at the present time.

STATUS OF CLAIMS

Claims 2-3, 11-12, and 15-19 have been cancelled. Claims 1, 4-10, 13-14, and 20-21 have been rejected. Claims 1, 4-10, 13-14, and 20-21 are on appeal.

STATUS OF AMENDMENTS

An Amendment was filed on August 11, 2010 subsequent to the Final Office Action, and a Response to Notice of Non-Compliant Amendment (due to missing claim 19 from the listing of claims) on September 1, 2010. In response, on September 20, 2010, the Examiner entered Applicants' Amendment after Final for purposes of appeal.

SUMMARY OF THE CLAIMED SUBJECT MATTER

Independent Claim 1

Claim 1, the only independent claim, recites a passenger car tire comprising a tread (page 2, lines 1-2 of the specification as originally filed), wherein said tread comprises a rubber composition (page 1, lines 32-27 of the specification as originally filed), said composition comprising a diene elastomer, silica in an amount of greater than 50 phr, a coupling agent and a plasticising agent (page 1, lines 32-37 and page 6, lines 17-38 of the specification as originally filed), wherein the diene elastomer comprises a styrene butadiene rubber copolymer and 40 to 80 phr of butyl rubber (page 3, lines 23-25, page 5, lines 18-29, and page 14, lines 14-28 of the specification as originally filed), and the plasticising agent comprises 10 to 50 phr of an unsaturated (C₁₂-C₂₂) fatty acid triester of glycerol (page 11, lines 5-10 of the specification as originally filed).

GROUND OF REJECTION TO BE REVIEWED IN APPEAL

Whether claims 1, 4-10, 13, 14, 20 and 21 are patentable under 35 U.S.C. §103(a) over Hopkins (US 2002/0198305) in view of Vasseur (WO 02/088238) and Simonot

(US2004/0030017). (For convenience and consistency with the Examiner's approach, the citations below for Vasseur are from its English language equivalent US 2004/0127617.)

ARGUMENT

For at least the following independent reasons, claim 1 and the remaining pending claims, which all depend from claim 1, are not obvious over Hopkins in view of Vasseur and Simonot under 35 U.S.C. §103(a).

I. Hopkins does not teach a tire tread composition for a passenger car. Therefore, a modification of Hopkins based on Vasseur and Simonot as proposed by the Examiner would not produce the invention of claim 1 and its dependent claims, which are directed to a passenger car tire.

The primary reference Hopkins is clearly directed to a tire tread for heavy vehicles, such as trucks and buses, among various applications, such as shoes and rubber diaphragms for water pumps. *See* paragraphs 0002 and 0084, and claims 11-13 of Hopkins. Nowhere does Hopkins mention that the elastomeric composition disclosed therein can be used for a passenger car tire. Indeed, the natural and butyl rubbers required in Hopkins' composition are routinely used in heavy vehicle tires (*see, e.g.,* Simonot, paragraph 0083). Therefore, a modification of Hopkins based on Vasseur and Simonot as proposed by the Examiner would not produce the invention of claim 1 and its dependent claims, which are directed to **a passenger car tire**.

In the Advisory Action, the Examiner argues as follows: "In this case, the phrase 'passenger car' refers to an intended use of the tread composition. It does not add structural limitations to the claim." *See* the Advisory Action, pages 2-3, bridging paragraph. This argument lacks merit.

As stated by the Examiner, the preamble is sometimes not considered to be a limitation and is of no significance to claim construction when the preamble merely states the purpose or

intended use of the invention. However, the law also emphasizes that if the preamble contains wording that helps to distinguish the claimed invention from the prior art, then the preamble is essential to the description of the invention. Of course, the clearest evidence that the preamble is intended to help distinguish the invention from the prior art is an amendment of the preamble to overcome a prior art reference cited by the examiner,¹ or an argument made by the applicant to the examiner asserting that the preamble distinguishes the invention from the prior art.² Indeed, the Federal Circuit has made clear that nothing prevents an inventor from limiting the field of his invention to a particular purpose or function, and nothing prevents him from drafting this limitation in the preamble. *See In re Stencel*, 828 F.2d 751, 754, 4 USPQ2d 1071, 1073 (Fed. Cir. 1987).

In the present case, the phrase “passenger car” was added during prosecution to distinguish from the prior art. *See, e.g.,* Appellants’ Amendment dated July 11, 2008. Therefore, based on the law as stated above, the phrase “passenger car” is a meaningful limitation and must be considered. Consistently, the specification of the present application has made it clear that a passenger car and a heavy vehicle have substantially different requirements

¹ *See, e.g., Phillips Petroleum Co. v. Huntsman Polymers Corp.*, 157 F.3d 866, 873, 48 USPQ2d 1161, 1166 (Fed. Cir. 1998) (applicant added term to preamble, but when he later tried to remove it, the examiner refused to accept removal, stating that the term was essential to give life and meaning to the claim.)

² *See In re Cruciferous Sprout Litigation*, 301, F.3d 1343, 1348, 64 USPQ2d 1202, 1205) (Fed. Cir. 2002), wherein a claim preamble for “A method of preparing a food product rich in glucosinolates, comprising...” was held to be a limitation because the patentee had distinguished a prior art reference during prosecution by arguing:

Although “rich in glucosinolates” is recited in the preamble of the claim, the pertinent case law holds that the preamble is given weight if it breathes life and meaning into the claims . . . Accordingly, the cited prior art does not anticipate the claims because it does not explicitly teach a method of preparing a food product comprising cruciferous sprouts that are rich in glucosinolates or contain high levels of Phase 2 inducer activity.

for tire and tire tread. *See*, e.g., paragraphs 0003, 0041, 0042, 0051, and 0075. In fact, as the Examiner herself acknowledges, "A difference may be expected to exist in the sidewall or carcass structure of the tires . . ." *See* the Advisory Action, page 3, lines 2-3.

The Examiner argues,

[T]he requirements for passenger car tire treads and truck or bus treads would not be that different. Cars, truck, and buses all share the same roads and travel at around the same speeds on those roads . . . Moreover, even if it were true that differences in the tread compositions were present, a truck or bus tire tread would be capable of performing as a car tire tread.

See the Advisory Action, pages 2-3, bridging paragraph. This argument is without merit.

It is well known that passenger cars and heavy vehicles, such as trucks, are substantially different in many aspects, including size, weight, speed, and conditions to be used. For example, 1) a heavy vehicle relies more on its weight to provide tire tread traction control over the ground than passenger cars; 2) heavy vehicles, including tires and tire treads thereof, are designed to have the capability to travel on irregular grounds, such as soft farm grounds and non-paved bumpy roads, whereas passenger cars are not; therefore, heavy vehicles often require that their tires be designed to better absorb shock than passenger car tires; 3) due to their differences in size, weight, speed, etc., light passenger cars and heavy vehicles have substantial different requirements for the properties of their tires and tire treads with regard to rolling resistance, grip performance, wet traction control, etc.

In fact, each of the references cited by the Examiner has made it clear that a tire and a tire tread for a passenger car are different from those of a heavy vehicle. *See*, e.g., Hopkins, paragraphs 0002, 0084, claim 12; Vasseur, Abstract, paragraphs 0002-0003; Simonot, paragraphs 0082 and 0083; Sandstrom (U.S. Patent Application Publication No. 2003/0089438, which was previously cited by the Examiner in, e.g., Office Action dated February 11, 2008),

Abstract, paragraphs 0002-0008 and 0020. These references all show that the Examiner's statement that a heavy vehicle tire tread is the same as a passenger vehicle tread, or that the type of a vehicle does not impart any limitation to its tire or tire tread, is incorrect. Indeed, because of the substantial differences between tires (and tire treads) used for heavy vehicles and those used for passenger cars, each of the references cited by the Examiner explains in detail whether the tire tread discussed therein is for a light vehicle or a heavy vehicle; otherwise, were the Examiner's position correct, the detailed explanation provided in the cited references regarding vehicle types for which the tire treads are suitable would be superfluous.

Based on the foregoing, it is respectfully submitted that the phrase "passenger car" recited in claim 1 is a meaningful limitation, and a modification of Hopkins based on Vasseur and Simonot as proposed by the Examiner would not produce the invention of claim 1 and its dependent claims, which are directed to a passenger car tire.

II. There is no apparent reason for a person of ordinary skill in the art to modify the tire treads of Hopkins, which are designed for trucks, based on the relevant teachings of Vasseur and Simonot, which are all directed to tire treads for passenger cars.

As noted above, the requirements for tires of heavy vehicles, which are expressly disclosed in Hopkins, are substantively different from the requirements for tires of passenger cars, which are not disclosed by Hopkins.

Vasseur is directed to tires of light passenger vehicles based on highly unsaturated diene elastomers, which are apparently designed for running on roads at a very high speed. *See* Vasseur, paragraphs 0002, 0034, and 0044. Therefore, as disclosed in Vasseur, there is a need to improve the grip performance of tires of a passenger car on dry or damp ground. *See* Vasseur, paragraph 0005. Vasseur then discloses the use of a plasticizer comprising a glycerol oleic acid

trimester in a rubber composition based on at least one highly unsaturated diene elastomers, to improve the grip performance of tires of a passenger car on dry or damp ground.

On the other hand, as stated above, Hopkins is directed to an elastomeric composition which is based on natural rubbers, butyl rubbers, and is useful for truck tire treads, among other applications, such as shoes, rubber diaphragms. *See*, e.g., paragraphs 0002-0004, 0007-0011, and 0084. Due to their lower speed and much heavier weight compared to light passenger cars, trucks do not have the same concern or demand for high grip ability, as do the light passenger cars in Vasseur. Indeed, as evidenced by Sandstrom, which was cited by the Examiner, it is well known that heavy vehicles rely more on their weight to provide tire tread traction over the ground, in contrast to passenger tires. Neither Hopkins nor Vasseur teaches, discloses or suggests any need to improve the grip ability of the tire of a heavy vehicle. Therefore, based on Hopkins and Vasseur, there is no reason for a person of ordinary skill in art to add the plasticizer of Vasseur to the rubber composition of Hopkins, which is substantially different from that of Vasseur.

Despite the absence of any teaching of increasing grip ability of a truck tire in Hopkins and Vasseur, the Examiner argues as follows: “[C]onserving grip performance, would be desirable for almost any type of tire and certainly tires for tires used to run typical vehicles on typical roads such a passenger cars, trucks, and buses.” *See* the Advisory Action, page 3, first full paragraph. This argument is without merit.

Specifically, the Examiner fails to consider adverse consequences resulting from this proposed modification based on the warning of Hopkins. Specifically, at paragraph 0002, Hopkins cautions, “**Many properties are desirable in a rubber used in a vehicle tire tread and generally improvements in one property are achieved at the expense of other**

properties.” (Emphasis added.) Different types of vehicles have different specific requirements for various desired properties, such as grip performance and wear characteristics. Because improvements in one property are achieved at the expense of other properties, a vehicle tire cannot have all the desired properties at their best. In other words, there must be some compromises made among the many desired properties. But one type of vehicle tire may tolerate certain compromised desired property more than a different type of vehicle. As suggested in Hopkins, improving the grip ability of the tire of a heavy vehicle may render as unacceptable other properties of the tire of the heavy vehicle, such as abrasion resistance and other mechanical properties. Therefore, it would not have been obvious for a person of ordinary skill in the art to add the plasticizer of Vasseur to Hopkins’ rubber composition, which is substantially different from that of Vasseur. In fact, a person of ordinary skill in the art would be discouraged to modify Hopkins’ rubber composition for truck tires based on the teaching of Vasseur, as proposed by the Examiner, due to the concern that another important property would be compromised and fail to satisfy the specific requirements for truck treads, which are different from the specific requirements of passenger car tire treads.

The Examiner also argues that the composition taught in Hopkins finds utility in tire treads for all vehicles and is not limited to those for a heavy vehicle running at a low speed. *See* the Advisory Action, page 3, first full paragraph. Similarly, at page 4, second paragraph of the final Office Action, the Examiner argues, “A passenger car is a type of vehicle. While Hopkins goes on to say that it is especially useful for tire tread of trucks and buses, it does not exclude other types of vehicles.” This argument also lacks merit.

As noted above, Hopkins only specifically discloses a rubber composition that is useful for truck tires. Indeed, as noted above, the natural and butyl rubbers required in Hopkins’

composition are often used in heavy vehicle tires (*see, e.g.,* Simonot, paragraph 0083). Nowhere does Hopkins mention passenger car tires, let alone disclosing a specific rubber composition that may be useful for a passenger tire tread. The fact that Hopkins does not exclude tires for types of vehicles other than trucks is not sufficient in concluding that Hopkins discloses tires for passenger cars. For a reference to disclose a claimed feature under 35 U.S.C. §§ 102 and 103, the reference must positively disclose the claimed feature either expressly or implicitly or inherently. *See, e.g.,* MPEP 2112. Here, nowhere does Hopkins disclose a passenger car tire, nor can the Examiner identify any passage in Hopkins that discloses a passenger car tire expressly, implicitly, or inherently.

It is well settled law that a reference, which discloses a genus encompassing a claimed species without specifically disclosing the claimed species, cannot be relied on as disclosing the claimed species. *See, e.g.,* MPEP 2144.08. (“When a single prior art reference which discloses a genus encompassing the claimed species or subgenus but does not expressly disclose the particular claimed species or subgenus, Office personnel should attempt to find additional prior art to show that the differences between the prior art primary reference and the claimed invention as a whole would have been obvious.”) Therefore, by merely disclosing the genus “vehicles”, Hopkins cannot be relied on as disclosing the species “passenger car.”

Similarly, the relevant teachings of Simonot concerning the use of SBR (*i.e.,* paragraph 0082 of Simonot), which are relied upon by the Examiner, are also directed to a **light** passenger vehicle running at a **high** speed. Therefore, for the same reasons discussed above in connection with Hopkins and Vasseur, there is no apparent reason for a person of ordinary skill in the art to modify the tire treads of Hopkins, which are designed for trucks, based on the relevant teachings of Simonot, which are all directed to tire treads for passenger cars.

III. A person of ordinary skill in the art would not substitute the blend of SBR and butadiene rubber used in Simonot's composition for the natural rubber used in Hopkins' composition.

The Examiner relies on Simonot to remedy the deficiencies of Hopkins and Vasseur regarding SBR. *See* the final Office Action, page 3, second full paragraph. But, as stated by the Examiner, Simonot teaches at paragraph 0082 that an SBR and butadiene rubber blend is desirable for **passenger car tires**. Indeed, Simonot has specifically differentiated a tire tread composition intended for a passenger car tire from a tire tread composition intended for a heavy vehicle tire. *See* paragraphs 0082 and 0083. Therefore, a person of ordinary skill in the art would not apply the teachings of paragraph 0082 of Simonot, which are directed to passenger car tires, to modify Hopkins' rubber composition for truck tire treads.

Moreover, Hopkins has explicitly stated that its composition preferably comprises natural rubber and halobutyl rubber, which are both oleophilic and compatible with each other. *See* paragraphs 0007-0011 and Table 4. Hopkins also discloses that compositions containing only natural rubber and halobutyl rubber are preferred. *See* paragraph 0011. This further shows that absent any particular reason, a person of ordinary skill in the art would not modify Hopkins' preferred embodiment by replacing natural rubber with SBR and butadiene rubber used in Simonot's composition, which is intended for a passenger car tire tread.

Based on the foregoing, a person of ordinary skill in the art would not modify Hopkins' composition based on Simonot's teaching, as suggested by the Examiner, to arrive at the present invention.

IV. A person of ordinary skill in the art would not have a reasonable expectation of success for the modification as proposed by the Examiner.

Due to the significant differences concerning the composition and requirements of Hopkins and Vasseur (or Simonot), as noted above, a person of ordinary skill in the art would not have any reasonable expectation of success so as to substantially modify Hopkins' composition. Specifically, as proposed by the Examiner, one must change the preferred natural rubber-based composition of Hopkins to a SBR-based composition, and add a plasticizer, which is only known as useful for a passenger car tire composition, to a truck tire composition. A person of ordinary skill in the art would reasonably expect that modifying the composition of Hopkins might in actuality adversely affect or interfere with some critical properties of Hopkins' heavy vehicle tire treads.

Therefore, a person of ordinary skill in the art would not have a reasonable expectation of success for the modification as proposed by the Examiner.

V. Hopkins fails to teach the use of 40 to 80 phr of butyl rubber in its composition. Therefore, a modification of Hopkins as proposed by the Examiner would not arrive at the present invention.

Hopkins does not teach the use of 40 to 80 phr of butyl rubber, as recited in claim 1 of the present application. In contrast, Hopkins teaches that the use of more than 30% of butyl rubber would have an adverse effect on abrasion resistance. *See* paragraph 0109 and Fig. 1. In other words, Hopkins teaches away from the use of 40 to 80 phr of butyl rubber. Therefore, even if a person of ordinary skill in the art would modify other aspects of Hopkins' composition based on Vasseur and Simonot, as suggested by the Examiner, s/he would still not arrive at a rubber composition comprising 40 to 80 phr of butyl rubber.

VI. The unexpected results obtained with the present invention further shows that it is patentable in view of the prior art.

The unexpected results as shown at paragraphs 0122-0140 of the present published application further indicate that the invention as described in the claims of the present application is not obvious over Hopkins in view of Vasseur and Simonot. As explained at, e.g., paragraph 0006 of the present published application, the grip of the tire as described in the claims of the present application on wet ground is significantly increased. This unexpected result is further demonstrated by the comparative test results described at paragraphs 0122-0140 of the present published application.

CONCLUSION

For the foregoing six independent reasons, it is respectfully submitted that Appellant's claims are not rendered obvious and are, therefore, patentable over the art of record, and the Examiner's rejections should be reversed.

Respectfully submitted,
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CLAIMS APPENDIX

1. A passenger car tire comprising a tread, wherein said tread comprises a rubber composition, said composition comprising a diene elastomer, silica in an amount of greater than 50 phr, a coupling agent and a plasticising agent, wherein the diene elastomer comprises a styrene butadiene rubber copolymer and 40 to 80 phr of butyl rubber, and the plasticising agent comprises 10 to 50 phr of an unsaturated (C₁₂-C₂₂) fatty acid triester of glycerol.
4. The tire tread according to Claim 1, wherein the butyl rubber is a halogenated butyl rubber.
5. The tire tread according to Claim 4, wherein the butyl rubber is a brominated butyl rubber.
6. The tire tread according to Claim 1, wherein the fatty acid of the glycerol triester is for more than 50% by weight selected from among the group consisting of oleic acid, linoleic acid, linolenic acid and mixtures of these acids.
7. The tire tread according to Claim 6, wherein the fatty acid comprises more than 50% by weight of oleic acid.
8. The tire tread according to Claim 7, wherein the fatty acid comprises more than 80% by weight of oleic acid.

9. The tire according to Claim 8, wherein the glycerol fatty acid triester is glycerol trioleate.

10. The tire according to Claim 9, wherein the glycerol trioleate is present in the form of sunflower oil.

13. The tire according to Claim 1, wherein the amount of glycerol triester is within a range from 15 to 30 phr.

14. The tire according to Claim 1, wherein the diene elastomer comprises, in addition to the butyl rubber, at least one elastomer selected from among the group consisting of polybutadienes, synthetic polyisoprenes, natural rubber, butadiene copolymers, isoprene copolymers and mixtures of these elastomers.

20. The tire according to claim 1 wherein the styrene butadiene rubber is prepared in a solution.

21. The tire according to claim 1 wherein the diene elastomer additionally comprises a polybutadiene.

None.

EVIDENCE APPENDIX

RELATED PROCEEDINGS APPENDIX

None.